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10/762,499	01/23/2004	Aarti Gupta	A8625	5224
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SUGHRUE MION, PLLC				
2100 PENNSYLVANIA AVENUE, N.W.				
SUITE 800				
WASHINGTON, DC 20037				
EXAMINER				
OCHOA, JUAN CARLOS				
ART UNIT		PAPER NUMBER		
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08/11/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/762,499

Applicant(s)

GUPTA ET AL.

Examiner

JUAN C. OCHOA

Art Unit

2123

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 21 July 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 5 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____.

/Paul L Rodriguez/
Supervisory Patent Examiner, Art Unit 2123

Continuation of 3. NOTE: The independent claims now contain "

81. A computer implemented method for generating an abstract model for a sequential design for verification of a given correctness property, comprising the steps of:

- (a) unrolling the sequential design with property, and environmental constraints up to some depth k
- (b) solving the resulting satisfiability problem to determine whether the said property is violated
- (c) deriving an unsatisfiable core from the proof of unsatisfiability when the property is not violated, where an unsatisfiable core is a subset of the constraints that is guaranteed to be sufficient for showing that the problem is unsatisfiable
- (d) using the said unsatisfiable core to derive an abstract model for further verification of the sequential design, wherein, a subset of flip-flops and external constraint nodes are marked based on certain related constraints being present in said unsatisfiable core the said abstract model consisting of complete combinational fanin cones of only the marked flip-flops and the marked external constraint nodes, such that outputs from the unmarked flip-flops are regarded as pseudo-primary inputs, and said abstract model providing a benefit that it is guaranteed to preserve the correctness of the said property up to the said finite depth k.

82. A method for generating an abstract model for a sequential design for verification of a given correctness property, comprising:

- a) unrolling the design to depth k (where k = kmin at the start)
- b) deriving an abstract model at depth k, that preserves correctness of said property up to depth k, when the property is not violated
- c) iteratively increasing k up to some limit kmax, and repeating above steps (a - c) until either the size of the said abstract model remains stable over a certain number of consecutive depths, or the limit kmax is reached". The claims previously recited"

The independent claim previously recited "

75. A computer implemented method for generating an abstract model for a sequential design for verification of a given correctness property, comprising:

- a) unrolling the sequential design time frames up to a finite depth k to create an unrolled design;
- b) adding interface propagation constraints for each flip-flop in the sequential design, to capture equality between an input and output of said each flip-flop across successive time frames;
- c) adding an initial value constraint for said each flip-flop in a first time frame; d) adding the correctness property constraints at certain or all the time frames;
- e) solving a resulting constraint satisfiability problem to determine whether the correctness property is violated on the unrolled design;
- f) deriving an unsatisfiable core from the proof of unsatisfiability when the correctness property is not violated, where the unsatisfiable core is a subset of the constraints sufficient for showing that the problem is unsatisfiable; and
- g) using said unsatisfiable core to derive an abstract model for further verification of the sequential design; wherein the said unsatisfiable core is used to mark certain flip-flops and certain external constraint nodes, the abstract model consists of combinational fanin cones of only the marked flip-flops and the marked external constraint nodes, such that outputs from the unmarked flip-flops are regarded as pseudo-primary inputs".

This changes the scope, which would require further search.

The claims previously did not recite these limitations.